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BALMUS, G.; RUTTER, G.

Experimental research on murine leukemia. 8. Action of deoxyribonucleic acid extracted from murine leukemia tissues from the line C. 57 B. Stud. cercet. inframicrobiol. 16 no.1: 69-79 '65.

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RADULESCU, P.; HOTNOG, E.

Respiratory resuscitation in neuro-infections. Stud. cercet.
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1. Comunicare prezentata la cel de-al II-lea Simpozion romino-bulgar
asupra encefalitelor actuale, Sofia, 1-3 noiembrie 1962.

(RESPIRATORY INSUFFICIENCY) (BRONCHOPNEUMONIA) (POLIOMYELITIS)
(ENCEPHALITIS) (ENCEPHALOMYELITIS) (MENINGOENCEPHALITIS)
(RESPIRATION, ARTIFICIAL) (TRACHEOTOMY)

RUMANIA

616.988:616.3-07:616.15

CIUGARIN, Maria, MANITIU, Mindruta, and IONESCU, Brindusa, of the Clinic No I of Infectious Diseases (Clinica I de Boli Infectioase) and IMF [Institutul de Medicina si Farmacie; Medical-Pharmaceutical Institute] Bucharest.

"The Hemagglutination Inhibition Reaction in the Diagnosis of Enteroviroses."

Bucharest, Studii si Cercetari de Inframicrobiologie, Vol 17, No 3, 66, pp 189-196

Abstract: The authors studied hemagglutination inhibition antibodies in comparison with neutralizing antibodies in a small number of patients, in an attempt to utilize the hemagglutination inhibition reaction in the diagnosis of enteroviroses. In another study, favorable results were obtained with the use of the hemagglutination inhibition reaction for the identification of some types of ECHO hemagglutinating viruses.

Includes 2 tables and 15 references, of which one Rumanian and 14 Western.

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- 26 -

VOICULESCU, M., Prof.; BRUCKNER, Silvia, conf.; PREDESCU, I. dr.; TAIIDEL, Cl., dr.; MARINESCU, Gh., dr.; CIUGARIN, Maria, dr.; COTARCEA, Sofia, dr.; PAUN, L. dr.; HOTNOG, Eugenia, dr.; MANITIU, Mindruta, dr.

Corticoid hormones in the therapy of neurological virus infections. Indications and results. Med. intern. (Bucur) 10 no.5: 581-589 My'64.

1. Lucrare efectuata in Clinica de boli contagioase nr.1, I.M.F. [Institutul medico-farmaceutic], Bucuresti.

SZAVA, I., assist. prof.; CIUGUDEAN, C.; NYIRO, C.

Radical surgical treatment of neoplasms of the bones. Considerations
on the rules adopted by us in the treatment of tumours of long bones.
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(BONE AND BONES neoplasms) (EXTREMITIES neoplasms)

CIUGARIN, Maria; MANITIU, Mindruta; ALEXANDRU, Maria

Contribution to the study of the hemagglutination test in the
identification of ECHO viruses. Stud. cercet. inframicrobiol.
15 no.5:455-460 '64.

CIUGARIN, Maria; MANITIU, Mindruta; ALEXANDRU, Maria

Aspects of the isolation of enteric viruses from the cerebro-spinal fluid in the years 1961-1963. Studii cercet. infra-microbiol. 15 no.6:543-555 '64

LEONTEC, M., Dr.; GHIULEA, M., Dr. 1965, 1966, 1967

Familial outbreak of infantile diarrhea, with isolation of RSCG virus (type 14). *Pedistria* (Bucur) 14 no.2:149-155 Mr-Apr'65.

1. Lucrare efectuata in Clinica I de boli infectioase, Institutul medico-farmaceutic, Bucuresti; Spitalul "Colentina.

RUMANIA

CIUGARIN, Maria, MD.

Infectious Disease Clinic, Medico-Pharmaceutical Institute (Clinica de boli infectioase, I.M.F.),
Bucharest

Bucharest, Viata Medicală, No. 23, December 1965,
pp 1585-1589

"Comments on the Viral Diagnosis of Infectious Diseases"

DORDEA, T.; VASILIEVICI, AL.; CIUGUDEAN, Elena; CIMPEANU, A.; IRHAS, Dolna

Study on the commutation with condensers of the frequency modifier
with metalloliquid sliding contact using semiconductor diodes.
Bul St si Tehn Tim 9 no.2:481-490 J1-D '64.

RUMANIA

VIOTULESCU, M., Professor; CIUGARIN, Maria, MD.

Clinic No I for Infectious Diseases of the "Colentina"
Hospital, Bucharest (Clinica I de boli infectioase, de la
Spitalul "Colentina", Bucuresti) - (for all)

Bucharest, Viata Medicala, No 24, ~~16~~ 15 Dec 63, pp 1709-1714

"Present Problems in the Diagnosis of Smallpox."

CIUHA, Andrej, inz. (Ljubljana, Poljanski nasip 12)

Laboratory vacuum evaporator for the use in electron
microscopy. Elektr vest 30 no. 8/9:208,217-218 '62/'63.

1044, M		B 64	
SA		J	
621.316.13 : 621.315.23 (497.1)			
4064. Economic design of underground cable distribution networks. M.			
Cinba. Elektroteh. Vestn., 18 (No. 5-6) 133-40 (1950) In Serbian.			
Urban cable distribution systems are described and an economic basis for design is calculated. This is applied to the existing system at Ljubljana, Slovenia, taking into account the present load and the need for accommodating future increased loads.			
A.			
ASB-54A METALLURGICAL LITERATURE CLASSIFICATION			

CIUHANDU, GH.

RUMANIA/Analysis of Inorganic Substances.

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19607.

Author : Gh. Ciuhandu

Inst : -

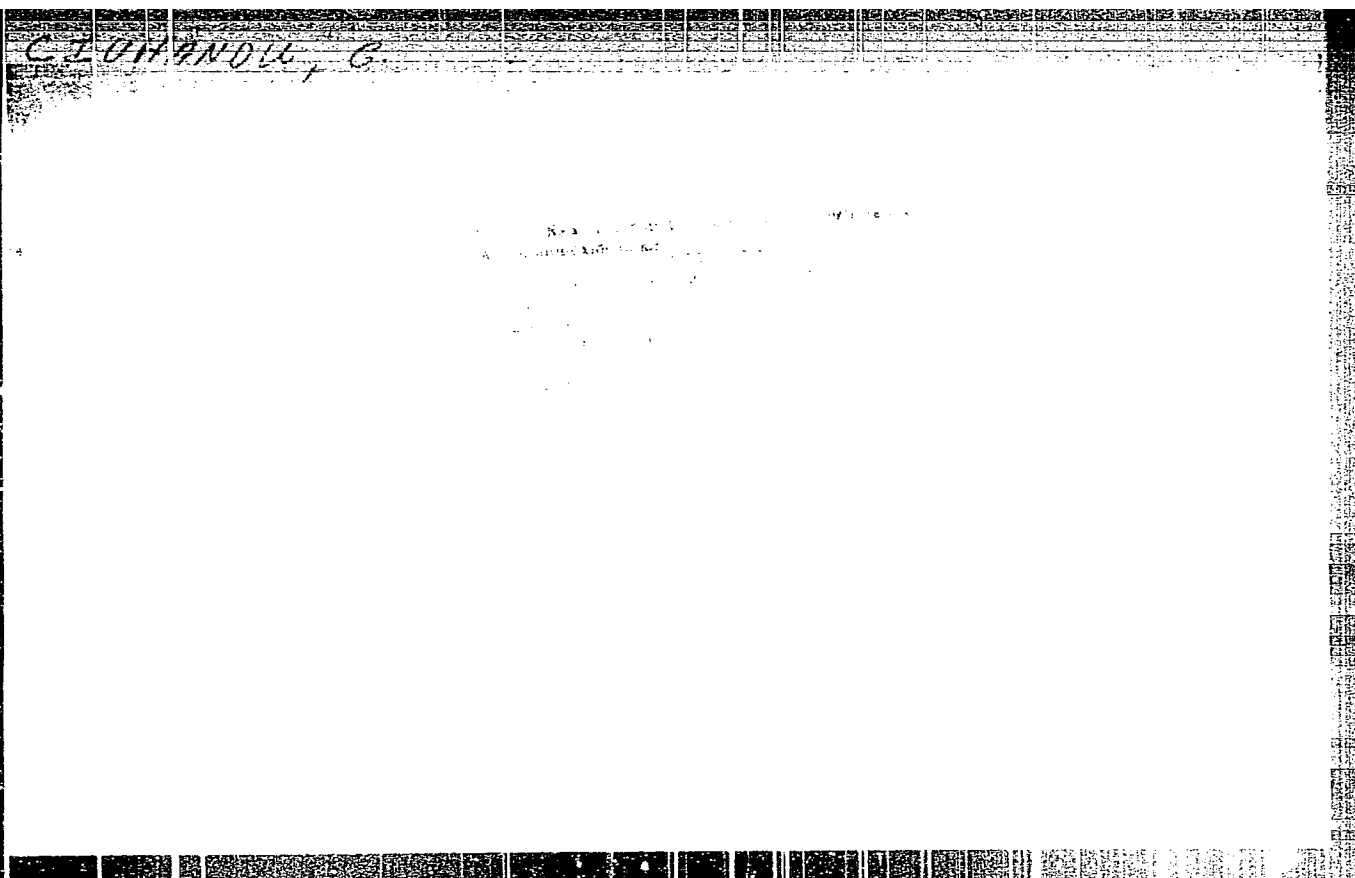
Title : New Method of Determination of Carbon Monoxide
in Air

Orig Pub: Studii si Cercetari Stiint. Acad. RPR, Baza Timi-
soara. Ser. 1, 1955, 2, No 1-4, 130 - 142.

Abstract: When AgNO_3 (I) and Na-salts of n-sulfamidebenzoic
acid (II) are mixed in presence of an alkali, a
colorless solution of a complex compound is pro-
duced. This compound is applicable as an indi-
cator (In) for the determination of CO in the air.
At the interaction between CO and In, a yellow

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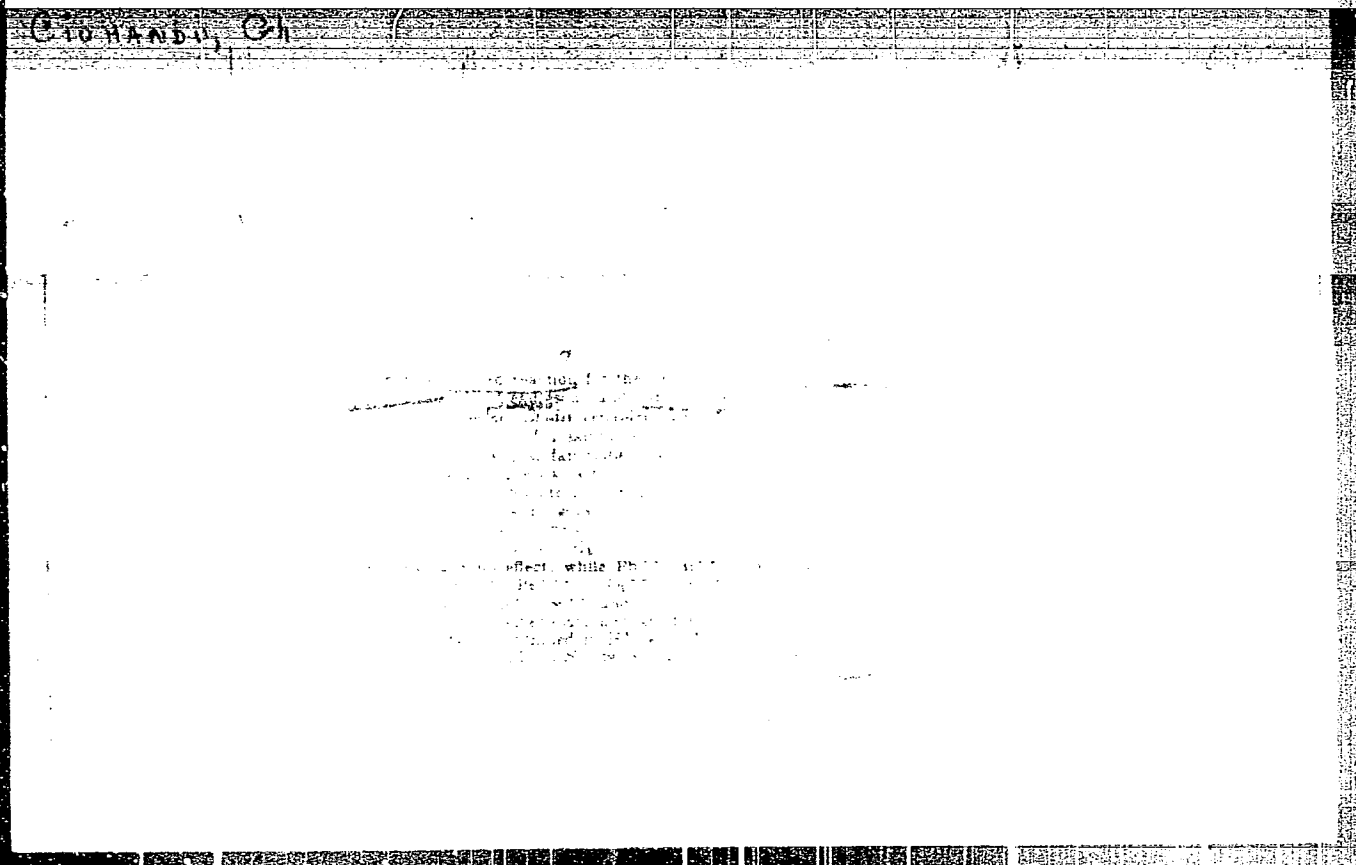
Map 1. (a) (b) (c) (d) (e) (f) (g) (h) (i) (j) (k) (l) (m) (n) (o) (p) (q) (r) (s) (t) (u) (v) (w) (x) (y) (z) (aa) (ab) (ac) (ad) (ae) (af) (ag) (ah) (ai) (aj) (ak) (al) (am) (an) (ao) (ap) (aq) (ar) (as) (at) (au) (av) (aw) (ax) (ay) (az) (ba) (bb) (bc) (bd) (be) (bf) (bg) (bh) (bi) (bj) (bk) (bl) (bm) (bn) (bo) (bp) (bq) (br) (bs) (bt) (bu) (bv) (bw) (bx) (by) (bz) (ca) (cb) (cc) (cd) (ce) (cf) (cg) (ch) (ci) (cj) (ck) (cl) (cm) (cn) (co) (cp) (cq) (cr) (cs) (ct) (cu) (cv) (cw) (cx) (cy) (cz) (da) (db) (dc) (dd) (de) (df) (dg) (dh) (di) (dj) (dk) (dl) (dm) (dn) (do) (dp) (dq) (dr) (ds) (dt) (du) (dv) (dw) (dx) (dy) (dz) (ea) (eb) (ec) (ed) (ee) (ef) (eg) (eh) (ei) (ej) (ek) (el) (em) (en) (eo) (ep) (eq) (er) (es) (et) (eu) (ev) (ew) (ex) (ey) (ez) (fa) (fb) (fc) (fd) (fe) (ff) (fg) (fh) (fi) (fj) (fk) (fl) (fm) (fn) (fo) (fp) (fq) (fr) (fs) (ft) (fu) (fv) (fw) (fx) (fy) (fz) (ga) (gb) (gc) (gd) (ge) (gf) (gg) (gh) (gi) (gj) (gk) (gl) (gm) (gn) (go) (gp) (gq) (gr) (gs) (gt) (gu) (gv) (gw) (gx) (gy) (gz) (ha) (hb) (hc) (hd) (he) (hf) (hg) (hh) (hi) (hj) (hk) (hl) (hm) (hn) (ho) (hp) (hq) (hr) (hs) (ht) (hu) (hv) (hw) (hx) (hy) (hz) (ia) (ib) (ic) (id) (ie) (if) (ig) (ih) (ii) (ij) (ik) (il) (im) (in) (io) (ip) (iq) (ir) (is) (it) (iu) (iv) (iw) (ix) (iy) (iz) (ja) (jb) (jc) (jd) (je) (jf) (jg) (jh) (ji) (jj) (jk) (jl) (jm) (jn) (jo) (jp) (jq) (jr) (js) (jt) (ju) (jv) (jw) (jx) (jy) (jz) (ka) (kb) (kc) (kd) (ke) (kf) (kg) (kh) (ki) (kj) (kk) (kl) (km) (kn) (ko) (kp) (kq) (kr) (ks) (kt) (ku) (kv) (kw) (kx) (ky) (kz) (la) (lb) (lc) (ld) (le) (lf) (lg) (lh) (li) (lj) (lk) (ll) (lm) (ln) (lo) (lp) (lq) (lr) (ls) (lt) (lu) (lv) (lw) (lx) (ly) (lz) (ma) (mb) (mc) (md) (me) (mf) (mg) (mh) (mi) (mj) (mk) (ml) (mm) (mn) (mo) (mp) (mq) (mr) (ms) (mt) (mu) (mv) (mw) (mx) (my) (mz) (na) (nb) (nc) (nd) (ne) (nf) (ng) (nh) (ni) (nj) (nk) (nl) (nm) (nn) (no) (np) (nq) (nr) (ns) (nt) (nu) (nv) (nw) (nx) (ny) (nz) (oa) (ob) (oc) (od) (oe) (of) (og) (oh) (oi) (oj) (ok) (ol) (om) (on) (oo) (op) (oq) (or) (os) (ot) (ou) (ov) (ow) (ox) (oy) (oz) (pa) (pb) (pc) (pd) (pe) (pf) (pg) (ph) (pi) (pj) (pk) (pl) (pm) (pn) (po) (pp) (pq) (pr) (ps) (pt) (pu) (pv) (pw) (px) (py) (pz) (qa) (qb) (qc) (qd) (qe) (qf) (qg) (qh) (qi) (qj) (qk) (ql) (qm) (qn) (qo) (qp) (qq) (qr) (qs) (qt) (qu) (qv) (qw) (qx) (qy) (qz) (ra) (rb) (rc) (rd) (re) (rf) (rg) (rh) (ri) (rj) (rk) (rl) (rm) (rn) (ro) (rp) (rq) (rr) (rs) (rt) (ru) (rv) (rw) (rx) (ry) (rz) (sa) (sb) (sc) (sd) (se) (sf) (sg) (sh) (si) (sj) (sk) (sl) (sm) (sn) (so) (sp) (sq) (sr) (ss) (st) (su) (sv) (sw) (sx) (sy) (sz) (ta) (tb) (tc) (td) (te) (tf) (tg) (th) (ti) (tj) (tk) (tl) (tm) (tn) (to) (tp) (tq) (tr) (ts) (tu) (tv) (tw) (tx) (ty) (tz) (ua) (ub) (uc) (ud) (ue) (uf) (ug) (uh) (ui) (uj) (uk) (ul) (um) (un) (uo) (up) (uq) (ur) (us) (ut) (uu) (uv) (uw) (ux) (uy) (uz) (va) (vb) (vc) (vd) (ve) (vf) (vg) (vh) (vi) (vj) (vk) (vl) (vm) (vn) (vo) (vp) (vq) (vr) (vs) (vt) (vu) (vv) (vw) (vx) (vy) (vz) (wa) (wb) (wc) (wd) (we) (wf) (wg) (wh) (wi) (wj) (wk) (wl) (wm) (wn) (wo) (wp) (wq) (wr) (ws) (wt) (wu) (wv) (ww) (wx) (wy) (wz) (xa) (xb) (xc) (xd) (xe) (xf) (xg) (xh) (xi) (xj) (xk) (xl) (xm) (xn) (xo) (xp) (xq) (xr) (xs) (xt) (xu) (xv) (xw) (xx) (xy) (xz) (ya) (yb) (yc) (yd) (ye) (yf) (yg) (yh) (yi) (yj) (yk) (yl) (ym) (yn) (yo) (yp) (yq) (yr) (ys) (yt) (yu) (yv) (yw) (yx) (yy) (yz) (za) (zb) (zc) (zd) (ze) (zf) (zg) (zh) (zi) (zj) (zk) (zl) (zm) (zn) (zo) (zp) (zq) (zr) (zs) (zt) (zu) (zv) (zw) (zx) (zy) (zz)

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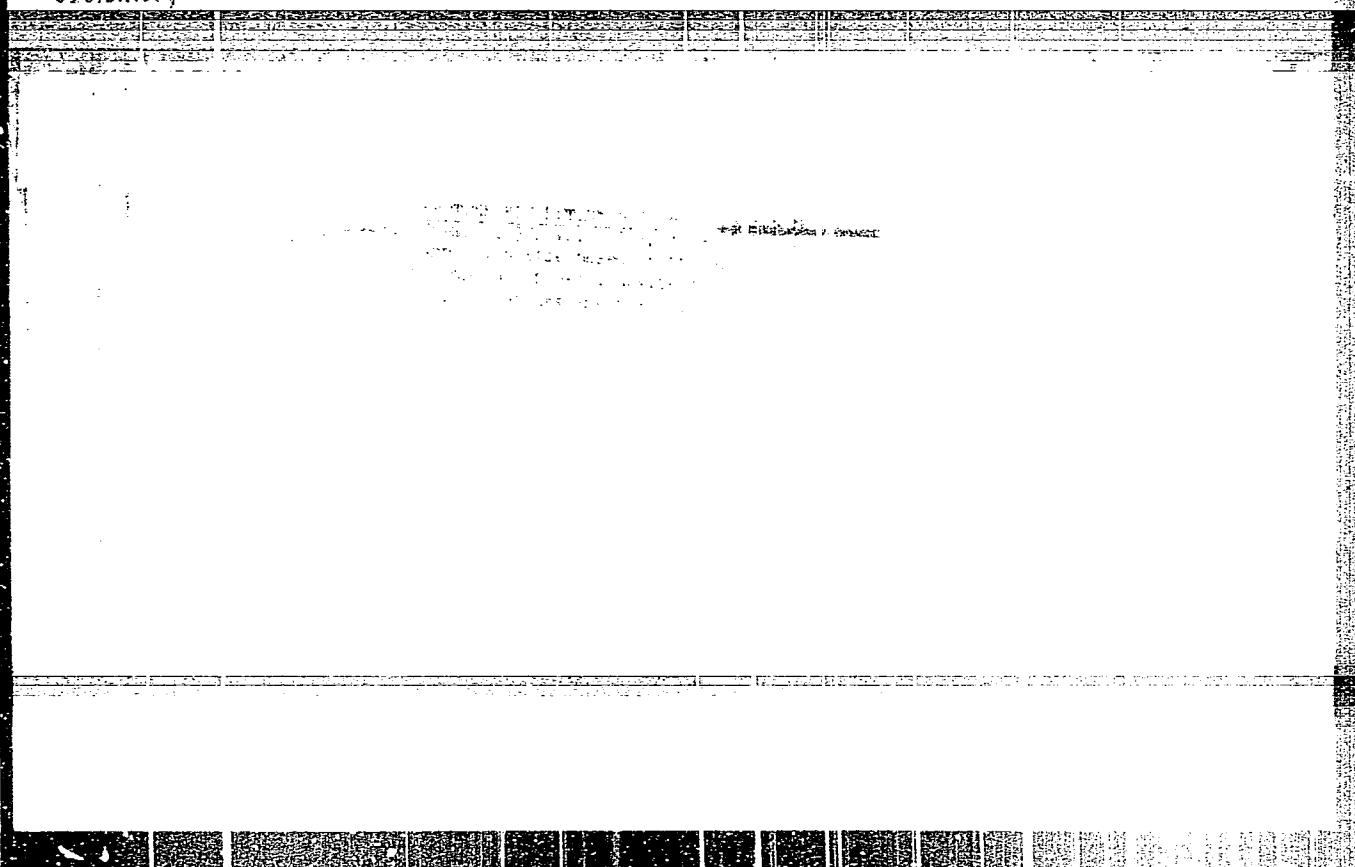
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A negative stable test for the presence of carbon monoxide in the air. The silver compound of *p*-nitrophenylhydrazide. George Chubb in (1951) has found that *p*-nitrophenylhydrazide (C₆H₄(NO₂)NHNH₂) of C₆H₄(NO₂)NHNH₂ and C₆H₄(NO₂)NHNH₂ can be used for the detection of carbon monoxide. It yields a yellow to dark brown color when it reacts with carbon monoxide. The presence of silver ions does not influence the reaction, but it does influence the color of the sample before testing. Other reducing agents cause only a gray color caused by silver suspension. The intensity of the intense color of the color. The intensity of the color is increased by adding 1 vol. part of 0.1% Na₂S₂O₅ solution to 1 vol. part 0.1M AgNO₃ and 0.6 vol. part 1M NaOH. CO (conc. of 0.0001%) may thus be evolved. The color is necessary for the formation of the color being a sensitive measure of CO concentration.



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Micromethod for the photometric determination of carbon monoxide in air. Gheorghe Ciuhandu (Inst. Hyg., Timisoara, Romania). Z. anal. Chem. 701, 348-8 (1958); cf. C.A. 51, 14485k. —The Ag suspension is measured at 420 mμ for up to 0.5% CO in air and at 410 mμ for 0.5-2%. By using 25 ml. of air, 0.001-2% CO is detd. The limiting concn. is 0.3 γ CO/25 ml. air. For low concns. a blank correction is necessary.

K. G. Stone

CIUHANDU, Gh.; ROCSIN, M.

A new color reaction for detecting arsenic. Studii chim Timisoara 6
no.3/4:77-79 JI-D '59. (EEAT 10:4)

(Arsenic)	(Sodium benzoate)	(Silver)	(Sulfamide)
(Dyes and dyeing)	(Hydrogen)	(Color reactions)	

CIUHANDU, Gheorghe

Detection of the traces of carbon monoxide in hydrogen. Studii cerc
chim 7 no.4:569-571 '59. (REAI 9:7)

1. Institutul de igiena, Laboratorul de toxicologie, Timisoara.
(Carbon monoxide) (Hydrogen)

CIUHANDU, Gh., dr. (Timisoara, Str. Michelangelo 1); KRALL, G. (Timisoara, Str. Michelangelo 1); GIURAN, V. (Timisoara, Str. Michelangelo 1)

Determination of carbon monoxide traces in carbon dioxide. Acta chimica Hung 28 no.1/3:171-177 '61. (FEAI 10:9)

1. Laboratorium der Chemischen Werke "TIMIS", Timisoara, Rumania.

(Carbon monoxide) (Carbon dioxide)

ROMANIA

CIUHANDU, Gh.; DIACONOVICI, M.

Bucharest, Igiene, No 4, Jul-Aug 63, pp 363-367

"Fluorometric Determination of Coke Tar Along with Petroleum
Bitumen in the Air."

II 30774-66 FCC

ACC NR: AP6020262

SOURCE CODE: RU/0003/65/016/11-/0601/0602

AUTHOR: Ciuhandu, Gh.; Rusu, V.

ORG: none

TITLE: Determining carbon oxide traces in the air ✓

SOURCE: Revista de chimie, v. 16, no. 11-12, 1965, 601-602

TOPIC TAGS: colorimetry, photometric analysis, carbon dioxide, carbon monoxide, trace analysis

ABSTRACT: The authors describe a method for the chromoclorimetric and photometric determination of carbon oxide in air by diffusion in an argento-sulphamidobenzoate solution. The method, which makes use of flattened 125-milliliter vessels, requires a 6-hour diffusion time, is very simple, and has an accuracy of ± 3 percent up to a concentration of 8,000 parts per million of CO; sensitivity is 15 parts per million. Orig. art. has: 3 figures. [Based on authors' Eng. abstract] [JPRS]

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 003

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CIUK, E.

"Problem of Brown Coal." p.34

(PRZEGLAD GEOLOGICZNY No. 1/2, Jan./Feb. 1954 Warszawa, Poland)

SO: Monthly List of East European Accessions, LC, Vol. 3, no. 5, May 1954/Uncl.

CIUK, Edward

Note on the occurrence of brown coal in the Lubin Legnicki,
Scinawa, and Legnica regions of the Wroclaw Voivodeship.
Kwartalnik geol 5 no.4:953-954 '61.

1. Zaklad Zloz Wegli, Instytut Geologiczny, Warszawa.

CIUK, Edward

Report on prospecting and diagnosing deposits of brown coal in Poland carried out during 1960. Kwartalnik geol 5 no.4:954-955 '61.

1. Zaklad Zloz Wegli, Instytut Geologiczny, Warszawa.

CIUK, Edward

Chemical characteristics of the brown coal from the deposit at Rogozno north of the city of Lodz and the possibilities of its utilization. Kwartalnik geol 5 no.4:956-957 '61.

1. Zaklad Zloz Wegli, Instytut Geologiczny, Warszawa.

CIUK, Edward

The brown coal deposit in the region of Cybinka in Zielona Gora
Voivodeship. Kwartalnik geol 5 no.4:958-959 '61.

1. Zaklad Zloz Wegli, Instytut Geologiczny, Warszawa.

CIUK, Wieslaw, mgr. inz.

The work of 1300 retionalizers. Przegl techn n0.30:11.
J1 '62.

S/262/62/000/003/003/004
I004/I204

AUTHOR: Ciuksza, Edward

TITLE: Piston and piston rings

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye ustanovki, no. 3, 1962, 65, abstract 42.3.278 P. Tłok do silnika spalinowego i pierścienie uszczelniające tłok. Polish patent, class 46c¹, 8, no. 43329, June 21, 1960

TEXT: Patented is a piston of light construction with automatic lubrication and tightening of the packing during the whole working period of the steam engine. The piston is of a welded construction and is made of steel plate. The piston packing rings are made of aluminium (or a similar material), they are sectionalized (4 parts) and expand by means of special cones actuated by small pistons which are under the pressure of the steam or the oil coming from the lubrication system.

[Abstracter's note: Complete translation.]

Card 1/1

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CIULA, Gustaw, mgr (Poznan)

Cooperation of the Poznan Building Association in the organization
of the International Poznan Fair. Przegl budowl i bud mieszk 35
no.9:502 '63.

CONSTANTINESCU, N.; KRAUSS, S.; CONSTANTINESCU, Maria; GIULAVU, C.

Glucocorticoid hormone treatment of certain forms of haemoptysis.
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(TUBERCULOSIS PULMONARY complications)

VOINESCU, A., correspondent; DUMITRASCU, I., correspondent; PAUN, Dumitru, correspondent; CIRSTOIU, Valentin, correspondent; CIULEA, Gh., ing.; CONSTANTIN, Al., correspondent; DUMITRU, Vasile, correspondent; RADU, Romul, ing.; GAVANESCU, G., economist.

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28 D-63:1

1. Director, Trustul Regional de Constructii de Locuinte, Banat, (for Ciulea).
2. Director, Trustul Regional de Constructii de Locuinte, Brasov (for Radu).

CIULEA, Gh. ing.

Letters to the editorial office. Conat Buc 16 no.732:3
18 Ja '64.

1. Directorul Trustului Regional de Constructii de Locuinte,
Banat.

110. 1. 1965. 110.

Regional manual labor. Constr. No. 17 no. 782:3 5 Ja 1965.

Director, Regional Trusts for Housing Construction, Banat.

PUIU, Al.; CIULEA, O.

"Manual of political economy. Socialism," edited by [prof. univ.,
membru corespondent al Academiei R.P.R.] I.Rachmuth, [prof. univ.]
E.Hutira, [conf. univ.] Fl. Balaure, [conf. univ.] M.Paraluta,
[conf. univ.] E.Dobrescu, [conf. univ.] I.Dinu, [conf. univ.]
M.Popescu, [lector univ.] I.Margineanu. Reviewed by Al. Puiu, O.
Ciulea. Probleme econ 16 no.12:122-126 D '63.

CIULEA, Octavian

Innovation and invention movement in Rumania. Probleme econ
16 no.10:80-94 0 '63.

CIULEA, O.

Role of socialist industrialization in the employment and
rational utilization of the labor force. Probleme econ
18 no.5:30-43 My '65.

Circle, I.

~~Country: Romania~~
~~Source: (if copy) Given name~~

Country: Romania

Academic Degrees: Pharm. Dr.

Affiliation: *)

Source: Bucharest, Pharmacol, No 5, May 61, pp 285-290.

Date: "Contributions to the action of Synanthus officinalis L.
on the proliferation of Graft Tumors (Walker and Guarin) in Rats."

Co-authors:

MADELESCU, P., Dr.

GIULI, I., Pharmacist.

STANESCU, Maria, Pharmacist.

[Academic degrees and affiliations not given.]

*) Work performed at the Pharmacology Laboratory (Laboratorul de Farmacologie) in cooperation with the Institute of Oncology (Institutul de Oncologie), Bucharest.

ciulei, i.

- [illegible]

ROMANIA

HERMAN, Gh.; CIULEI, I.; MARIN, M.; DŌ-TĂT-LŌI; HADARAG, Elena;
DUMITRIU-CAROL, Emilia; BALACI, P.

Bucharest, Farmacia, No 5, May 1963, pp 271-283

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1. "Productive Varieties of Wheat," Professor S. GOSAWI, pp 3-4.
2. "Wheat for High Farm Yields," Dr. J. V. GAZDAR, Chairman of Agricultural Science and Scientific Director of Agriculture, Instituto de Cereales, Facultad Nacional de Agronomia, p. 4.
3. "Production of Wheat Strains," Dr. E. ALON, Scientific Head, Agricultural Research Institute, p. 5.
4. "Wheat and Cereals on Irrigated Soils," Professor Dr. N. ELIAS, p. 5.
5. "Wheat Strains Manufactured in Russia," Dr. V. D. MINOR, pp 6-7.
6. "The Production of Wheat," I. GILDI, Physiologist, and Engineer, INGENIEROS, pp 8-11.
7. "Plastic Varieties Produced in High Gravity," Dr. EUGENIO PANDOLFI, Clinical Hospital (Spinal Clinic) in Moscow, pp 11-13.
8. "A Few Words About Lacuero and Rains," Dr. VARGASEA.
9. "The Nodul of a Live Cell," V. V. GUTZINGER, director of the Institute of Chemistry, Universidad Nacional de Tucuman, Argentina, Academy of Sciences (Central Office), pp 13-14.
10. "Paris Notes," Dr. Alexander SEM, pp 13-19.
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12. "The Maya Hieroglyphs are Discovered," Doctor ELIAS, pp 22-23.
13. "Notes -- The Zoological Garden," Dr. J. V. GAZDAR, Institute of Agronomy (International Agronomy), Tucuman, pp 24-25.

CIULI, I., fiz.; GHEORGHIES, E., ing.

The time paradox. St si Teh Buc 14 no.5:8-11 My '62

• CIULIN, Dan, ing.

A semiautomatic device for the control of electric circuits.
Automatica electronica 6 no.1:19-22 Ja-J '62.

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SASARMAN, A.; HORODNICEANU, Thea. Collaboration technique: CIULLEY,
Rodica

The use of neomycin for obtaining variants with small (dwarf) colonies in the Salmonella genus. Arch. roum. path. exp. microbiol. 22 no. 4:1101-1110 S-D '63.

1. Travail de l'Institut "Dr. I. Cantacuzino"; Service des Cultures Microbiennes.

SASARMAN, A.; HORODNICEANU, Thea. Collaboration technique: CIULLEY, Rodica

Genetic recombination in E. coli dwarf colony variants. Preliminary note. Arch. roum. path. exp. microbiol. 23 no.3:547-550
S'63

1. Travail de l'Institut "Dr. I. Cantacuzino"; Service des Cultures Microbiennes, Bucarest.

010661

S/056/61/040/002/044/047
B102/B201

AUTHORS: Wang Jung, Fisher, Ya., Chulli, I., Chulli, S.

TITLE: Photoproduction of neutrino - antineutrino pairs on electrons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40,
no. 2, 1961, 676-677

TEXT: D. I. Blokhintsev pointed out in 1958 that the weak interaction of electromagnetic energies might become comparable at sufficiently high energies. According to his estimation, the process $\gamma + e \rightarrow \mu + \nu + \bar{\nu}$ has a particularly large cross section which at 250 Bev attains that of the Compton effect. This cross section has been calculated and Blokhintsev's estimation has been found to be correct. Calculations are conducted by using the Hamiltonian

$$(1) \quad H = ic(\bar{\Psi}_e \hat{A} \Psi_e) + ic(\hat{\Psi}_\mu \hat{A} \Psi_\mu) + f(\bar{\Psi}_e \gamma_\alpha (1 + \gamma_5) \Psi_\mu) \times \\ \times (\bar{\Psi}_\nu \gamma_\alpha (1 + \gamma_5) \Psi_\nu) + f(\bar{\Psi}_\mu \gamma_\alpha (1 + \gamma_5) \Psi_e) (\bar{\Psi}_\nu \gamma_\alpha (1 + \gamma_5) \Psi_\nu).$$

and considering two graphs of lowest order (which resemble the corresponding graphs of the Compton effect). After averaging over the initial polarizations and summing over the end polarizations, and having eliminated the small

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Photoproduction of ...

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terms containing m_e^2 and m_μ^2 , $\sigma_\mu = \frac{1}{v} \frac{e^2 f^2}{(2\pi)^3} \frac{8}{\omega \epsilon_e} \int \frac{d^3 p_\mu d^3 p_\nu d^3 p_{\bar{\nu}}}{\epsilon_\mu \epsilon_\nu \epsilon_{\bar{\nu}}} \delta^4(p_e + k - p_\mu - p_\nu - p_{\bar{\nu}}) \times$

$$(2) \quad \times \left[- \frac{(k p_e)(p_{\bar{\nu}} k)(p_\nu p_\mu)}{[(p_e + k)^2 + m_e^2]^2} - \frac{(k p_\mu)(p_{\bar{\nu}} p_e)(p_\nu k)}{[(p_\mu - k)^2 + m_\mu^2]^2} + \right. \\ \left. + [(p_e + k)^2 + m_e^2]^{-1} [(p_\mu - k)^2 + m_\mu^2]^{-1} \{ [2(p_e p_\mu) - (p_e k) + (p_\mu k)] (p_{\bar{\nu}} p_e)(p_\nu p_\mu) + \right. \\ \left. + (p_e p_\mu)(p_{\bar{\nu}} k)(p_\nu p_\mu) - (p_e p_\mu)(p_{\bar{\nu}} p_e)(p_\nu k) + (k p_\mu)(p_{\bar{\nu}} p_e)(p_\nu p_e) - \right. \\ \left. - (k p_e)(p_{\bar{\nu}} p_\mu)(p_\nu p_\mu) \} \right].$$

is obtained for the total cross section. This expression is integrated in the c.m.s. in extremely relativistic approximation:

$\epsilon_e = \omega = E/2$, $\epsilon_\mu = |\vec{p}_\mu|$, $\epsilon_\mu^{\max} = E/2$, $v = 2$, $E = \omega + \epsilon_e$. In this approximation, the final expression resulting for the cross section is

$$\sigma_\mu = \frac{e^2 f^2}{4\pi^3} \omega^2 \left(\ln \frac{2\omega}{m_\mu} - 0.798 \right), \text{ where } \omega \text{ denotes the photon energy in the c.m.s.}$$

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If the well-known expression for the cross section of the Compton effect (σ_0) is used in the o.m.s., the inequality $(e^2 f^2 / 4\pi^3) \omega^2 \approx \pi r_{0e}^2 m_e^2 / \omega^2 \approx \pi (e^2 / 4\pi)^2 \omega^{-2}$ must be satisfied, if $\sigma_\mu \approx \sigma_0$ is to hold. This is the case at $\omega > 242$ Bev in the o.m.s. D. I. Blokhintsev is thanked for having formulated the problem and for his discussions. (This is an almost full translation.) There is 1 Soviet-bloc reference.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: September 30, 1960

Card 3/3

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21(8)

SOV/25-128-3-16/58

AUTHORS: Batusov, Yu. A., Bogachev, N. P., Sidorov, V. M.,
Chulli, I.

TITLE: Formation of Mesons by π^+ -Mesons With 280 Mev Energy on Nuclei
in a Photoemulsion

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 3, pp 491-494
(USSR)

ABSTRACT: When a positive pion collides with a nucleon in a compound nucleus, two charged mesons may be formed by the following reactions: $\pi^+ + p \rightarrow \pi^+ + \pi^+ + n$ (I), $\pi^+ + n \rightarrow \pi^+ + \pi^- + p$ (II). The authors investigated reactions (I) and (II) on the interaction of fast positive pions with nuclei in the photoemulsion. An emulsion chamber composed of ten layers of the emulsion NIKFI of the kind R (thickness 400 μ , diameter 80 mm) was irradiated in a beam of positive pions with 307 Mev energy in the synchrocyclotron of the Laboratoriya yadernykh problem (Laboratory for Nuclear Problems) of the Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research). Considering the slowing-down of mesons in the emulsion, the results of measurement were referred to an energy of (290 \pm 20) Mev

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SOV/20-128-3-16/58

Formation of Mesons by π^+ -Mesons With 280 Mev Energy on Nuclei in a Photoemulsion

of primary mesons. 13 (+ 4 probable) cases with two secondary mesons were recorded in 300 stars which had been found in the emulsion layers. In about 40% of the cases recorded only the track of a secondary particle could be found. When positive 280-Mev pions collide with nuclei of the photoemulsion, these pions in the nucleus are absorbed as often as negative pions. Disintegrations totalled 92 with slowed-down negative pions, and 106 with positive ones. Further investigation disclosed that 39 of these 198 disintegrations contained two secondary charged mesons. A diagram illustrates the energy distribution of mesons for the cases in which two secondary mesons were emitted. 7 of 112 investigated mesons possessed an energy of more than 60 Mev. The spectrum attained its maximum within the range 30-40 Mev. The major part of secondary mesons have an energy of less than 60 Mev, and the mean energy of the latter amounts to 30 Mev. The second diagram shows the spectrum of stopped negative pions. It resembles that mentioned above, yet it is distinctly shifted toward lower energies. The mean energy of negative pions amounts to 16 Mev.

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Formation of Mesons by π^+ -Mesons With 280 Mev Energy on Nuclei in a Photo-emulsion

The difference in the mean energies of positive and negative pions (~ 14 Mev) is due to the effect of the Coulomb field of the nucleus. The angular distribution of pions within the center-of-mass system is not isotropic, and attains a wide maximum at angles of $\sim 180^\circ$. A table shows the angular distribution of mesons for cases with two mesons. A distinct correlation in the direction of emission of the two secondary mesons is noticed here. The cross sections of meson formation during the collision of positive pions with nuclei in the photoemulsion were determined by comparing the number of formation processes with the number of stars produced by mesons within the same emulsion volume. The medium range of positive pions for star formation in the emulsion amounts to (32.4 ± 2.3) cm. The cross sections of the formation of charged mesons in the processes $\pi^- + \text{nucleus} \rightarrow \pi^-$ and $\pi^- + \text{nucleus} \rightarrow \pi^+$ are of the same order of magnitude. In most cases, the resultant mesons are absorbed in the same nucleus. For the reactions $\pi^+ + n \rightarrow \pi^+ + \pi^- + p$ and $\pi^- + p \rightarrow \pi^- + \pi^+ + n$, the cross sections (0.3 ± 0.2) and

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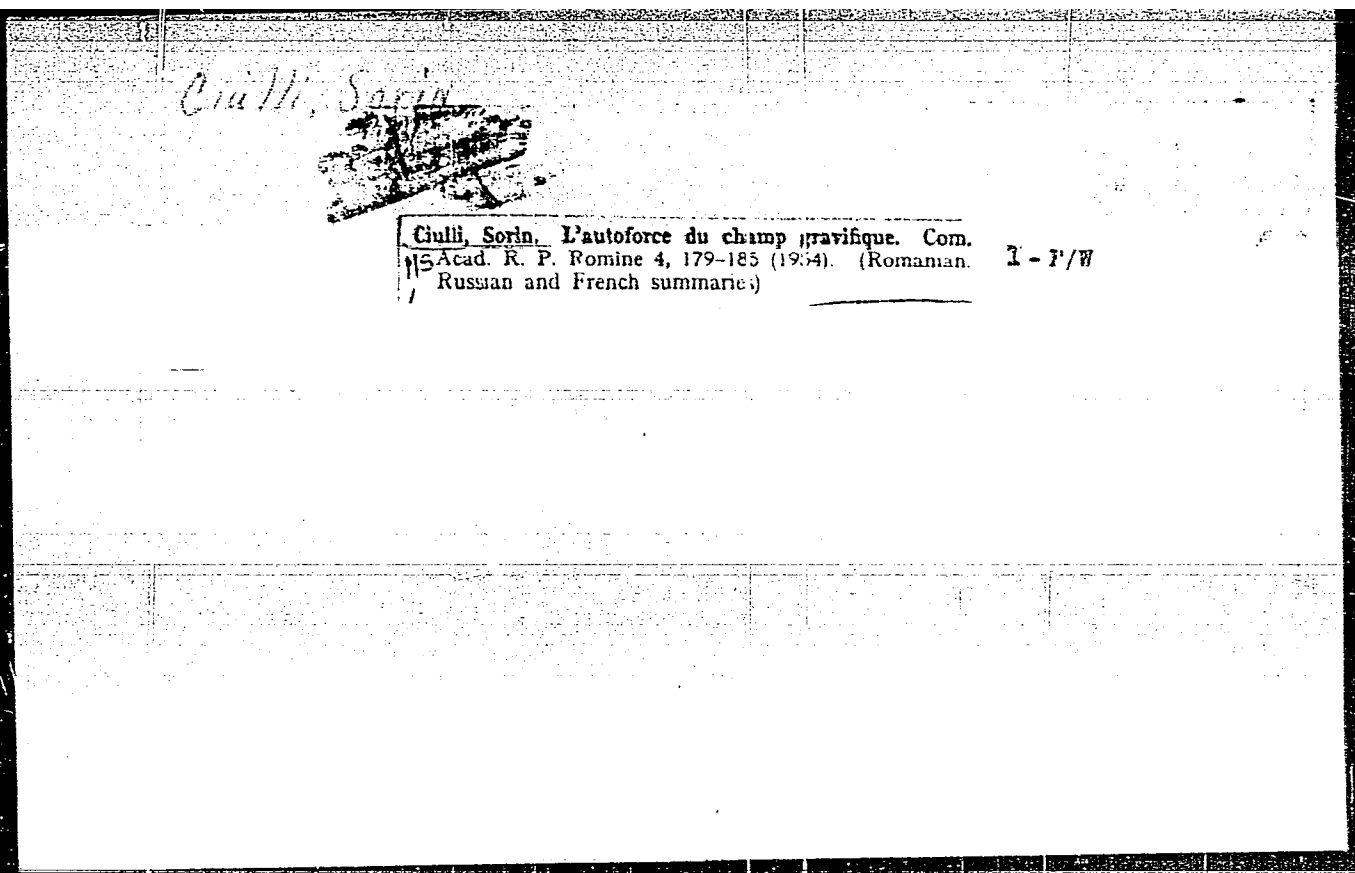
Formation of Mesons by π^+ -Mesons With 280 Mev Energy on Nuclei in a Photo-emulsion

0.1 mb were obtained. The authors thank Professor V. P. Dzhelepov for his interest in this investigation. There are 4 figures, 2 tables, and 10 references, 6 of which are Soviet.

PRESENTED: May 27, 1959, by L. A. Artsimovich, Academician

SUBMITTED: May 11, 1959

Card 4/4



~~C. JULILI, S.~~ C. JULILI, S.

AUTHOR: ČJULILI, S., MIKU, M. PA - 2048
 TITLE: The Statistical Method for the Study of the Behavior of a
 Totality of Charged Particles under the Effect of an Own
 Magnetic Field (Russian).
 PERIODICAL: Atomnaja Energiia, 1957, Vol 2, Nr 1, pp 5-9 (U.S.S.R.)
 Received: 3 / 1957 Reviewed: 3 / 1957

ABSTRACT: The present work shows the existence of steady solutions for
 the function of the statistical distribution of particles in
 a gas discharge. On this occasion the discharge is held back
 round the symmetry axis only under the influence of its own
 magnetic field. The gas is assumed to be sufficiently warm
 and to be fully ionized. Therefore the influence exercised
 by the diffusion of neutral atoms into the plasma is not
 taken into account. The equations of relativistic statistics
 for the totality of the charged particles which are under
 the influence of their own field are written down in the form
 given by S. CICEJKA. If the rationalized system of GAUSS units
 and of the antisymmetric tensor

$B^{\mu\nu}$ for the electromagnetic field is used, the following
 equations are obtained: $\frac{\partial}{\partial x^{\mu}} \left(\int_{\mu} F_{1,2} \right) + \frac{e_{1,2}}{m_{1,2}} B^{\mu\nu} \left\{ \frac{\partial F_{1,2}}{\partial x^{\mu}} \right\}_{\nu} = 0$

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PA - 2048

The Statistical Method for the Study of the Behavior of a
Totality of Charged Particles under the Effect of an Own
Magnetic Field (Russian).

$B_{\mu\nu} = \partial A_\nu / \partial x^\mu - \partial A_\mu / \partial x^\nu$, $\square A^\mu = -j^\mu$. Here $\{x^\mu\}$ denotes
the four-vector of velocity, F_1 - the distribution function
of the ions, F_2 - the distribution function of the electrons,
 j^μ - the four-vector of the flux of charged particles. The
present work solves the integrodifferential equations for
the steady isothermal distribution with axial symmetry, all
computations being carried out in nonrelativistic approxima-
tion.

The field $B^{\mu\nu}$ can be expressed by the components of the
fourdimensional vector A^μ . The solution of the wave equa-
tion for A^μ is given, and also the herefrom resulting com-
ponents of B_{12} . In the case of cylinder symmetry the functions
 F_1 and F_2 do not depend on φ and the components B_{12} , B_{23} ,
 B_{24} , B_{34} vanish in this case. The expressions for B^{13} , and
 B^{14} are explicitly given. The first of the above mentioned

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PA - 2048

The Statistical Method for the Study of the Behavior of a
Totality of Charged Particles under the Effect of an Own
Magnetic Field (Russian).

equations is specialized for this case. By separation of the
variable the authors endeavor to find a solution which
satisfies the condition $e_1 f_1 + e_2 f_2$. On the occasion of transi-
tion to a system of reference in which electrons and ions
have the same absolute velocity the equations for f_1 and f_2
become identical. In the case of equal initial conditions
($f_1(0) = f_2(0)$) both functions thus become identical. The
necessary operations of computation are discussed in short.
An equation for $f(r)$ is given and several times transformed,
its solution is written down in implicit form and is also
transformed. The results obtained here are correct only if
the density of the ions (f) becomes very low near the interior
walls of the tube (where temperature must not exceed a certain
limit). In conclusion the definite form of the function of
statistical distribution is given.

ASSOCIATION: Institute for Nuclear Physics, Bucarest, Roumania

PRESENTED BY:

SUBMITTED:

AVAILABLE: Library of Congress

CIULLI

ROMANIA/5 Electronics - Electrical Discharges of Gases and Gas
Discharge Apparatus.

II

Abs Jour : Ref Zhur Fizika, No 1, 1960, 1528

Author : Ciulli, S., Micu, M.

Inst :

Title : Plasma Oscillations in a Static External Magnetic
Field.

Orig Pub : Studii si cercetari fiz - Acad. RPR, 1958, 9, No 4,
489-496

Abstract : By using the Boltzmann equation, the author finds
the distribution function of a beam of electrons in
a plasma with cylindrical symmetry, located in an
axial magnetic field. The perturbations of the sta-
tionary distributions are investigated by calculat-
ing the deviations of the first-order moments from
their Maxwellian value. The values of the perturba-
tions of the magnetic field and of the distribution

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ROMANIA/Electronics - Electrical Discharges in Gases and Gas
Discharge Apparatus.

H

Abs Jour : Ref Zhur Fizika, No 1, 1960, 1528

functions are expanded in Fourier series, and a homogeneous system of differential equations is obtained for their amplitude. An analysis is given of the asymptotic solutions of the system, and from the condition of regularity of the solutions a scattering relation is derived for the oscillations of various frequencies. The stability of the plasma is insured for values of experimental parameters that enter into the scattering relation in $\omega \leq \omega_0$ for any ω , k , and n .

Card 2/2

C HULLY S.

21(1.8): 24(5) PHASE I BOOK EXPLOITATION SOV/369
 Vsesoyuznaya sessiya konferentsiya po kvantovoy teorii polya
 i teorii elementarnykh chastits. Uzhgorod, 1958
 Problemy sovremennoy teorii elementarnykh chastits. No. 21. Tredy
 konferentsii... Problems in the Modern Theory of Elementary
 Particles. No. 21. Transactions of the All-Union Inter-Vuz
 Conference on the Quantum Field Theory and the Theory of
 Elementary Particles. Uzhgorod, Zakarpatskoye oblastnoye izd-vo,
 1959. 214 p. 5,000 copies printed.

Ed.: Yu. Lomdas, Docent; Tsch. Ed.: M. Belous.
 PURPOSE: This book is intended for physicists, particularly those
 concerned with problems in the field of elementary particles and
 the quantum theory.

COVERAGE: This book contains articles on elementary particles
 originally read at the All-Union Inter-Vuz Conference held at
 Uzhgorod State University on October 25, 1958. Among the topics
 discussed are: the author field theory, the fusion theory,
 Lorentz contractions, parity studies, nucleon-nucleon scattering,
 etc. English abstracts accompany each article. References
 follow each article.

Delginov, A.Z. Polarization of Quanta Emitted by μ Mesons 138

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Fast Neutrons and Pions Particles With Neutrons and Neutrons 139

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S/056/60/038/006/024/049/XI
B006/B070

24.4500

AUTHORS: Fisher, Ya. (Institute of Physics of the Czechoslovakian
Academy of Sciences, Prague), Chulii, S. (Bucharest
Institute of Atomic Physics, Rumania)

TITLE: Recurrent Construction of Angular Operators. I

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 6, pp. 1740-1750

TEXT: The S-matrix theory allows the cross sections of elementary processes to be written as a function of energy, charge, angle, and spin. This can be done directly either on the basis of perturbation theory, Tamm-Dankov theory, dispersion relation theory, or other theories; or in a phenomenological way. In both cases, it is convenient to expand the S-matrix in terms of the eigenfunctions of the momentum and isotopic spin operators for the initial and final states of the process considered. The form of this expansion may be obtained from the conservation laws derived from the symmetry of the process with respect to the known transformation

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Recurrent Construction of Angular Operators. I

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B006/B070

groups. The following representation of the S-matrix is considered:

$S = \sum a(JM(f); J^0 M^0(i)) |JM(f)\rangle \langle J^0 M^0(i)|$, where $|J^0 M^0(i)\rangle$ and $|JM(f)\rangle$ are the vectors of a given initial and a given final state, respectively; $|a|^2$ is the intensity of the corresponding transition; J^0, M^0 and J, M are the quantum numbers of the total momentum and of its z-components in the initial and final state, respectively; (i) and (f) are quantum numbers which, together with $J^0 M^0$ and J, M form the total set of initial and final states, respectively. Only the angular terms (i) and (f) are considered; the other variables, such as energy, isotopic spin, parity, etc. can be comprehended in a. It follows from the invariance of the S-matrix with respect to spatial rotations that $J=J^0$, $M=M^0$, and the coefficients a are independent of M. Hence

$$S = \sum_{J(f)(i)} a(\text{energy} \dots J(f)(i)) \hat{T}(\text{angles and spins } J(f)(i)), \text{ where the}$$

"angular operators" are determined from the formula

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85682

Recurrent Construction of Angular Operators. I

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B006/B070

$\mathcal{T}(J(f)(i)) = \sum_{M=-J}^J |JM(f)\rangle \langle JM(i)|$ (normalized to $2J+1$). A recurrence method

is now developed for obtaining a representation of \mathcal{T} for a multi-particle reaction, that is, the \mathcal{T} of the multi-particle reaction can be reduced to the \mathcal{T} of a simpler reaction. In this method, only differential operations come into play, in contrast to the study of Biedenharn et al. where many Racah transformations are involved. The method is, therefore, simpler to work with. The method of obtaining angular operators for a reaction of the type $f + a \rightarrow f' + a_1' + \dots + a_n'$ (f, f' - fermions; a, a_1' - arbitrary

particles) is demonstrated without the application of Clebsch-Gordan coefficients. The method allows the angular operators of any complicated process to be written, provided that the angular operators of a simpler process are known. It is also considered how a set of angular operators is altered if one initial and one final scalar particle are replaced by spin-1/2 particles. Practical formulas and examples are discussed at the end. S. M. Bilen'kiy, V. I. Ritus, and R. M. Ryndin are thanked for valuable comments. There are 10 references: 3 Soviet, 5 US, 1 Italian.

Card 3/4

85682

Recurrent Construction of Angular
Operators: I

S/056/60/038/006/024/049/XX
B006/B070

and 1 French.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint
Institute of Nuclear Research)

SUBMITTED: August 28, 1959

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Card 4/4

86908

S/056/60/039/005/025/051
B006/B077

24.4500

AUTHORS: Fisher, Ya., Member of the Institute of Physics of the Czechoslovakian Academy of Sciences in Prague, Chulli, S., Member of the Institute of Atomic Physics in Bucharest, Rumania

TITLE: Recurrent Construction of Angular Operators. II. Introduction of an Integer Spin and an Arbitrary Orbital Momentum

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 5(11), pp. 1349-1356

TEXT: A practical method devised by the authors for constructing the angular operators with differential operators only is applied to study the changes in the form of angular operators caused by adding to the process a new orbital momentum or an integer spin. For processes where more than four particles are involved the calculation of the angular operators is complicated and cumbersome, and the authors therefore tried to develop a method to obtain the total set of angular operators of any complicated process, provided that the angular operators of the

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86908

Recurrent Construction of Angular Operators.
II. Introduction of an Integer Spin and an
Arbitrary Orbital Momentum

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corresponding simplest process are known. The formulation of the problem

is as follows: $\Omega_0 \hat{\mathcal{A}}(a_1 + a_2 \rightarrow \sum_1^n a_i^1) = \hat{\mathcal{A}}(a_1 + a_2 \rightarrow \sum_1^n a_i^1 + s)$ or $\Omega_0 \hat{\mathcal{A}}(a \rightarrow \sum_1^n a_i^1)$

$= \hat{\mathcal{A}}(a + s \rightarrow \sum_1^n a_i^1)$. a, a_i, a_i^1 denote arbitrary particles or nuclei, s - stands for the spin-zero particle, and $\hat{\mathcal{A}}$ is the angular operator of the process; using the operator Ω_0 a new scalar particle is added to this process. The

problem can also be considered as a special case of the problem of determining Ω ; Ω changes the quantum number of an angular momentum appearing in this reaction from l to l' without changing the number of the particles involved in the process. For the operator Ω an explicit expression is found and a number of valuable formulas are outlined which are very useful for practical calculations; some examples show their application. An analysis of the results shows that the suggested method is much simpler than all customary algebraic methods. This method is also simpler and more general than the one suggested by the authors in Ref.3.

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86908

Recurrent Construction of Angular Operators.
II. Introduction of an Integer Spin and an
Arbitrary Orbital Momentum

S/056/60/039/005/025/051
B006/B077

There are 2 figures and 8 references: 5 Soviet, 2 US, and 1 Italian.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint
Institute of Nuclear Research)

SUBMITTED: June 8, 1960

Card 3/3

S/056/61/040/002/044/047
B102/B201

AUTHORS: Wang Jung, Fisher, Ya., Chulli, I., Chulli, S.
TITLE: Photoproduction of neutrino - antineutrino pairs on electrons
PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40,
no. 2, 1961, 676-677

TEXT: D. I. Blokhintsev pointed out in 1956 that the weak interaction of electromagnetic energies might become comparable at sufficiently high energies. According to his estimation, the process $\gamma + e \rightarrow \mu + \nu + \bar{\nu}$ has a particularly large cross section which at 250 Bev attains that of the Compton effect. This cross section has been calculated and Blokhintsev's estimation has been found to be correct. Calculations are conducted by using the Hamiltonian

$$(1) \quad H = ie(\bar{\Psi}_e \hat{A} \Psi_e) + ie(\hat{\Psi}_\mu \hat{A} \Psi_\mu) + f(\bar{\Psi}_e \gamma_\alpha (1 + \gamma_5) \Psi_\mu) \times \\ \times (\bar{\Psi}_\nu \gamma_\alpha (1 + \gamma_5) \Psi_\nu) + f(\bar{\Psi}_\mu \gamma_\alpha (1 + \gamma_5) \Psi_e) (\bar{\Psi}_\nu \gamma_\alpha (1 + \gamma_5) \Psi_\nu).$$

and considering two graphs of lowest order (which resemble the corresponding graphs of the Compton effect). After averaging over the initial polarizations and summing over the end polarizations, and having eliminated the small

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B102/B201

terms containing m_e^2 and m_μ^2 , $\sigma_\mu = \frac{1}{v} \frac{e^2 f^2}{(2\pi)^3} \frac{8}{\omega \epsilon_e} \int \frac{d^3 p_\mu d^3 p_\nu d^3 p_{\bar{\nu}}}{\epsilon_\mu \epsilon_e \epsilon_{\bar{\nu}}} \delta^4(p_e + k - p_\mu - p_\nu - p_{\bar{\nu}}) \times$

$$(2) \quad \times \left[- \frac{(k p_e) (p_\nu k) (p_\nu p_\mu)}{[(p_e + k)^2 + m_e^2]^2} - \frac{(k p_\mu) (p_\nu p_e) (p_\nu k)}{[(p_\mu - k)^2 + m_\mu^2]^2} + \right.$$

$$+ [(p_e + k)^2 + m_e^2]^{-1} [(p_\mu - k)^2 + m_\mu^2]^{-1} \{ [2(p_e p_\mu) - (p_e k) + (p_\mu k)] (p_\nu p_e) (p_\nu p_\mu) +$$

$$+ (p_e p_\mu) (p_\nu k) (p_\nu p_\mu) - (p_e p_\mu) (p_\nu p_e) (p_\nu k) + (k p_\mu) (p_\nu p_e) (p_\nu p_e) -$$

$$\left. - (k p_e) (p_\nu p_\mu) (p_\nu p_\mu) \right\}.$$

is obtained for the total cross section. This expression is integrated in the c.m.s. in extremely relativistic approximation:

$\epsilon_e = \omega = E/2$, $\epsilon_\mu = |\vec{p}_\mu|$, $\epsilon_\mu^{\max} = E/2$, $v = 2$, $E = \omega + \epsilon_e$. In this approximation, the final expression resulting for the cross section is

$$\sigma_\mu = \frac{e^2 f^2}{4\pi^3} \omega^2 \left(\ln \frac{2\omega}{m_\mu} - 0.798 \right), \text{ where } \omega \text{ denotes the photon energy in the c.m.s.}$$

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B102/B201

If the well-known expression for the cross section of the Compton effect (σ_c) is used in the c.m.s., the inequality $(e^2 f^2 / 4\pi^3) \omega^2 \approx \pi r_0^2 m_e^2 / \omega^2 = \pi (e^2 / 4\pi)^2 \omega^{-2}$ must be satisfied, if $\sigma_\mu \geq \sigma_c$ is to hold. This is the case at $\omega > 242$ Bev in the c.m.s. D. I. Blokhintsev is thanked for having formulated the problem and for his discussions. (This is an almost full translation.) There is 1 Soviet-bloc reference.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: September 30, 1960

Card 3/3

CHULLI, S.

FISHER, Ya. [Fischer, J.]; CHULLI, S. [*Chulli, S.*]

Integral equations for $\pi\pi$ -scattering and problems related to
the convergence of the amplitude expansion. Zhur.eksp.i teor.fiz.
41 no.1:256-262 J1 '61. (MIRA 14:7)

1. Ob'yedinennyy institut yadernykh issledovaniy. 2. Fizicheskiy
institut Chekhoslovatskoy Akademii nauk v Prage (for Fisher).
3. Institut atomnoy fiziki v Bukhareste (for Chulli).
(Integral equations) (Mesons-Scattering)

CIUWAC, G. S.

"Pascovschi's Inlocuirea stejarului pedunculat prin gorun in Podusul Transilvaniei (Substitution of the Peduncular Oak by the Chestnut Oak: in the Tableland of Transylvania): a book review", p. 178 (REVISTA PADURILOR, Vol. 07, No. 10, Oct. 1954, Bucuresti, Rumania)

SO: Monthly List of East European Accessions, (REAL), Lc. Vol. 4, No. 4, April 1955, Uncl.

CJUMAC, G.

"Marin Radulescu's and Constantin Damacanu's Procede pentru regenerarea salcizului si substituirea arboretelor degradate de salcin (Procedure for Regeneration of Willow Trees and for Substitution of Degraded Willow Trees); a book review", p. 470, (REVISTA RUCUNION, Vol. 9, No. 10, Oct. 1954, Bucuresti, Rumania)

SO: Monthly List of East European Accessions, (EEL), 10, Vol. 4, No. 4, April 1955, Uncl.

GIURAS, G.

The phenomenon of roots of ligneous plants growing together and its importance for forestry. p. 139.

ANALIZA LUMINA-SOVIETICA. SERIA AGRICULTURA

Vol. 73, no. 3, May. 1956

Romania

Source: EAST-GERMANY LISTS Vol. 5, no. 10 Oct. 1956

CIUMAC, G.

Problems of tending and managing plantations. p. 88. REVISTA
PADURILOR. (Asociatia Stiintifica a Inginerilor si Technicienilor din Rominia
si al Ministerului Agriculturii Si Silviculturii) Bucuresti. Vol. 71,
no. 2, Feb. 1956.

So. East European Accessions List Vol. 5, No. 9 September, 1956

RUMANIA/Forestry - Forest Economy.

K.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 68009

Author : Ciunac, Gh.

Inst : -

Title : The Coalescence of Roots of Tree Species and Its Significance for Forestry.

Orig Pub : Rev. padurilor, 1956, 71, No 3, 139-142.

Abstract : On the basis of materials investigating the phenomenon of coalescence of root systems of tree species, this factor is described as having a positive influence on the productivity of tree groves. The significance of coalescence in determining forestry measures is emphasized, and attention is devoted to the insufficient study of this phenomenon in forestry.

Card 1/1

- 14 -

CIUMAC, G.

Additions to the study of retarded thinning and clearing in fir stands. p. 150.
(Revista Padurilor, Vol. 71, No. 3, Mar. 1957, Bucuresti, Rumania)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol. 6, No. 3, Aug 1957. Uncl.

CIUMEDEAN, D., ing.

Application of radioactive isotopes in the railroad and highway earthworks. Rev cailor fer 10 no.3:125-130 Mr '62.

1. Serviciul constructii, Timisoara.

CIUMEDEAN, Dumitru, ing.; CRISAN, Remus, ing.

Use of radioactive isotopes in road constructions. Rev
transport 10 no. 7:307-310 J1 '63.

CIUMPILEAC, Gh. (Bucuresti)

"Ocean mysteries" by N. N. Gorski. Reviewed by Gh. Ciumpileac.
Natura Geografie 16 no. 1:95-96 Ja-F '64.

CIUNDZIEWICKI, T., mgr

Universal tramps of 3200 DWT to the Polish Overseas Shipping
Agency from Bulgaria. Tech gosp morska 15 no.3:120 Mr '65.

L 02208-67

ACC NR: AP6029401 (A,N) SOURCE CODE: PO/0087/66/000/006/0236/0237

AUTHOR: Ciundziewicki, T. (Master of arts)

ORG: none

TITLE: Expansion of the USSR maritime economy for 1966-1970

SOURCE: Technika i gospodarka morska, no. 6, 1966, 236-237

TOPIC TAGS: maritime economy, sea transportation system, Soviet merchant marine, transportation equipment, cargo handling equipment, harbor facility

ABSTRACT: This article is based on material from the Soviet press. The author reviews Soviet plans for intensified development of the maritime transportation system to increase the size of the Soviet fleet by over 1 million tons per year during 1966-1970. The capacity of a Soviet-made tanker will be 46000 DWT. Modern ships of various types will be built for the Soviet Union in Poland, East Germany, Yugoslavia, Rumania, Bulgaria, Japan, Finland and other countries. The sea ports of Odessa and Sevastopol' will be completed and the construction of new modern harbor facilities will follow at Novorossiysk, Murmansk, Klaipeda, Riga, Nakhodka, Arkhangel'sk and Il'yichevsk. Automatic equipment will be introduced for handling

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ACC NR: AP6029401

cargo and overhauling all types of vessels. Due to the utilization of modern technological methods, the Soviet Union plans to reach a goal of 380 billion ton-miles by 1970. Great emphasis is placed on transporting foreign cargo between foreign ports for the purpose of earning more foreign currency.

SUB CODE: 17/ SUBM DATE: none/

Card 2/2 LC

CIUNGU, S.; WEISSENBERG, M.

Effect of the mineralogical composition of cement on adhesion between the concrete and the reinforcement. p. 571. Academia Republicii Populare Romine. Institutul de Mecanica Aplicata. STUDII SI CERCETARI DE MECANICA APLICATA. Bucuresti. Vol. 6, no. 3/4, July/Dec. 1955.

So. East European Accessions List

Vol. 5, No.

September, 1956

CIUNGU, S.

Variation of the adherence of the beton to the armature in the function of the length of anchorage.

P. 527(Academia Republicii Populare Romine. Institutul De Mecanica Aplicata. STUDII SI CERCETARI DE MECANICA APLICATA. Vol. 7, no. 2, Apr./June 1956. Bucuresti, Romania)

Monthly Index of East European Accessions (MEAI) LC. Vol. 7, no. 2, February 1958

CIUPAK, M.
P. T. A.

Technics + Economics

433

328.45 : 658.01

Clupak M. New Forms of Organization of Key-Industry Enterprises.

"Nowa organizacja przedsiębiorstw przemysłu kluczowego" *Ekonomika i Organizacja Pracy*, No. 10, 1950, pp. 348--377.

Notes on the former structure of industries. Reference to the decisions of the Economic Committee of the Council of Ministers dated 12.5.1950. General principles of the new structural forms.

Typical forms of enterprises and their adaptability for various industrial purposes. Procedure in the introduction of the new organizational principles.

CIUPAK, M.

The Polish textile industry in international relations. p. 253.

PRZEGLAD WLOKIENNICZY. (Stowarzyszenie Inzynierow i Technikow Przemyslu Słokienniczego) Lodz, Poland. Vol. 12, no. 5/6, May/June 1958.

Monthly List of East European Accessions (EEAI) LC. Vol. 8, no. 7, July 1959.

Uncl.

MAIER, H., Dr.; LENGHEL, L., dr.; MARGINEANU, C., dr.; PETREANU, R., dr.;
FANEA, B., dr.; CIUPE, M., dr.

~~contamination~~
Epidemiological and immunological role of natural sources of
water in conditions of specific contamination. Rev. igiena
microb. epidem., Bucur. Vol.3:19-35 July-Sept 55.

1. Lucrare executata in Institutul de Igiena, filiala Cluj si
Filiala Cluj a Inst Dr. I Cantacuzino.

(WATER SUPPLY

contamination by sewage & waste from indust. plants
causing epidemics of dysentery, typhoid & paratyphoid
fever, in Rumania.

(SEWAGE

contamination of river water supply causing epidemics
of dysentery, typhoid & paratyphoid fever, in Rumania.

(TYPHOID FEVER, epidemiol.

transm. by contamination of water supply by sewage,
epidemiol. & immunol. study in Rumania.

(PARATYPHOID FEVERS, epidemiol.

(SAME)

(DYSENTERY

caused by contamination of water supply by sewage,
epidemiol. & immunol. study in Rumania.

SURNAME, Given Names

Country: Rumania

Academic Degrees:

Affiliation: -not given-

Source: Bucharest, Microbiologia, Parazitologia, Epidemiologia, Vol VI,
No 4, Jul-Aug 1961, pp 347-350.

Data: "Studies on the Duration of the Carrier State in Escherichia
coli, O111, B₄ and O55, B₅₅."

Authors:

IVANOF, A., -Dr.-

CIUPE, M., -Dr.-

IONESCU, N., -Dr.-

NEGRU, Magdalena, -Dr.-

GPO 981643

RUMANIA/General and Systematic Zoology. Insects. Harmful P
Insects and Acarids. Forest Pests.

Abs Jour : Ref Zhur - Biol., No 3, 1959, No 11646

Author : Ciuperca, M.

Inst : -

Title : An Aspect of the Infestation of the Nun Moth
in the Brosten's Forestry Region.

Orig Pub : Rev. padurilor, 1958, 72, No 3, 151-152.

Abstract : No abstract

Card : 1/1

CIUPERCA, P.

Alteration of scraper conveyers type TF-1 in Petrila. p. 110.

REVISTA MINELOR. (Ministerul Minelor, Ministerul Industriei Petrolului si
Chimiei, Directia Exploatarilor Miniere si Asociatia Stiintifica a
Inginerilor si Tehnicienilor din Romina) Bucuresti, Rumania. Vol. 10,
no. 3, March 1959.

Monthly List of East European Accessions (EEAI) IC, Vol. 8, no. 7, July 1959

Uncl.

LESEANU, Adrian, ing.; FLOREA, Valer, ing.; CIUPERCEANU, V., ing.;
HALLER, Terezia, chim.

Experimental studies on the quality of enameled products for
household goods. Industria usocara 10 no.4:157-161 Ap '63.